PATENT
Customer No. 22,852
Attorney Docket No. 08059.0002

#14 Petition

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
Pita WITEHIRA et al.	)	Group Art Unit: 2871
	)	
Application No.: 09/622,535	)	Examiner: Minh Ton
	)	
Filed: November 22, 2000	)	
	)	
For: A MULTI-LAYER DISPLAY AND A METHOD FOR DISPLAYING IMAGES ON SUCH A DISPLAY	)	

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

PETITION TO MAKE SPECIAL UNDER M.P.E.P. § 708.02 (VIII)

Applicants hereby petition the Commissioner of Patents and Trademarks under 37 C.F.R. § 1.102 and M.P.E.P. § 708.02 (VIII) to make this application special and receive accelerated examination. In accordance with M.P.E.P. § 708.02 (VIII), Applicants enclose a check for $130.00 to cover the fee for this Petition as set forth in 37 C.F.R. § 1.17(i). If any additional fee is required in connection with the filing of this Petition, please charge that fee to our Deposit Account No. 06-0916.

All claims presented for examination are directed to a single invention. If it is determined by the Patent Office that all the claims are not obviously directed to a single invention, Applicants will make, without traverse, an election of claims for prosecution in this case.

In accordance with M.P.E.P. § 708.02 (VIII), a preexamination search was conducted by the International Preliminary Examining Authority. The references and patents located during the search or found in addition to the search are listed below. The inclusion of a reference in this

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Petition should not be construed as an admission that the reference is available as prior art to the claims of the application at issue.

Literature References

(1) Alampiev et al., "Technology of the Three Dimensional Electronic Matrix for Liquid Crystal Display"

(2) Blundell et al., "Volumetric Three-Dimensional Display Systems," pp. 1-7

(3) Buzak, "CRT Displays Full-Color 3-D Images"

(4) Cole et al., "A Three-Dimensional Display for Radar Returns"

(5) Eastman Kodak Co., "Kodak Datashow HR/M Projection Pad," Motion Picture and Audiovisual Products, 1988

(6) General Electric, "3-D Liquid Crystal Display for Mine Detecting Radar"

(7) Hattori et al., "Spatial Modulation Display Using Spatial Light Modulators," Optical Engineering, Vol. 31, No.2, pp. 350-52, (February 1992).

(8) Hodges et al., "True Three-Dimensional CRT-Based Displays," Infor. Display, pp. 18-22 (May 1987)

(9) Tamura et al., "Multilayer 3-D Display Adapter"

U.S. Patents

	U.S. Patent No.	Inventor(s)		U.S. Patent No.	Inventor(s)
(1)	2,543,793	Marks	(13)	4,333,715	Brooks ✓
(2)	2,961,486	Marks	(14)	4,472,737	Iwasaki ✓
(3)	3,536,921	Caulfield	(15)	4,541,692	Collins et al.
(4)	3,605,594	Gerritsen	(16)	4,736,214	Rogers
(5)	3,891,305	Fader	(17)	5,032,007	Silverstein et al.
(6)	3,918,796	Fergason	(18)	5,086,354	Bass et al.
(7)	3,955,208	Wick et al.	(19)	5,107,352	Fergason
(8)	3,992,082	Katz	(20)	5,132,839	Travis ✓
(9)	4,165,922 ✓	Morrissy	(21)	5,557,684	Wang et al.
(10)	4,190,856	Ricks	(22)	5,589,980	Bass et al.
(11)	4,281,341 ✓	Byatt	(23)	5,956,180	Bass et al.
(12)	4,294,516	Brooks			

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Foreign Patent Documents

	Document No.	Country		Document No.	Country
(1)	02-262119	Japan	(19)	62-161294	Japan
(2)	03-101581	Japan	(20)	62-191819	Japan
(3)	04-034521	Japan	(21)	62-191820	Japan
(4)	04-034595	Japan	(22)	62-235929	Japan
(5)	05-007373	Japan	(23)	63-039299	Japan
(6)	05-091545	Japan	(24)	63-067094	Japan
(7)	05-142515	Japan	(25)	63-100898	Japan
(8)	06-233328	Japan	(26)	63-203088	Japan
(9)	07-209573	Japan	(27)	1 448 520	United Kingdom
(10)	07-222202	Japan	(28)	0 195 584 A2	Europe
(11)	08-076139	Japan	(29)	0 336 351 A2	Europe
(12)	56-7916	Japan	(30)	0 454 423 A1	Europe
(13)	57-119389	Japan	(31)	WO 91/12554	WIPO
(14)	60-103895	Japan	(32)	WO 91/15930	WIPO
(15)	60-233684	Japan	(33)	WO 92/09003	WIPO
(16)	60-244924	Japan	(34)	WO 98/04087	WIPO
(17)	61-166524	Japan	(35)	WO 98/16869	WIPO
(18)	62-122494	Japan			

A copy of each of the above cited references has been previously submitted with an Information Disclosure Statement.

INDEPENDENT CLAIMS OF THE PRESENT INVENTION

17. A multi-layered image display comprising:

a first screen capable of displaying a first image;

a second screen capable of displaying a second image, wherein the first screen is in front of the second screen; and

a slightly diffuse layer between the first screen and the second screen.

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28. A multi-layered image display comprising:

a first screen capable of displaying a first image having a first pixel alignment;

a second screen capable of displaying a second image having a second pixel alignment, wherein the first screen is in front of the second screen; and

the second pixel alignment is 45 degrees with the respect to the first pixel alignment.

31. A multi-layered image display comprising:

a first screen capable of displaying a first image;

a second screen capable of displaying a second image, wherein the first screen and the second screen are transmissive polarized display devices; there is no polarizer on at least one face of at least the first screen or the second screen; and the first screen is in front of the second screen; and

at least one object between the first screen and the second screen capable of blocking polarized light

40. A multi-layered image display comprising:

a first screen capable of displaying a first image;

a second screen capable of displaying a second image, wherein the first screen and the second screen are transmissive polarized display devices; there is no polarizer on at least one face of at least the first screen or the second screen; and the first screen is in front of the second screen.

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DETAILED DESCRIPTION OF THE REFERENCES

Literature References

(1) Alampiev et al., "Technology of Three Dimensional Electronic Matrix For Liquid Crystal Display"

This article describes an electronic system for forming three dimensional images on a multi-layer liquid crystal display. The discussion focuses on methods of connecting the electrodes of the display to the control system. This article does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(2) Blundell et al., "Volumetric Three-Dimensional Display Systems," pp. 1-7

This publication defines and explains volumetric displays. As described by the authors, volumetric displays create images by illuminating certain volumes called voxels within the display area. The authors mention, but do not detail, volumetric displays that can be viewed from any angle. This article does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

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(3) Buzak, "CRT Displays Full-Color 3-D Images"

This article does not disclose or suggest, among other things, a display using multi-layered images. The author describes two display systems that create the perception of three dimensional images by presenting the right and left eyes of the viewer with slightly different images. In one system, a polarizer and a liquid crystal cell are placed between a cathode ray tube ("CRT") display and the viewer. The liquid crystal cell is switched rapidly on and off. As a result, the viewer sees a stream of image frames that alternates between images intended for the right eye with vertical polarization and images intended for the left eye with horizontal polarization. The viewer wears special glasses with a vertically oriented polarizer for the right eye and a horizontally oriented polarizer for the left eye. A three-dimensional television image is perceived because each eye is receiving only those images intended for that eye. The other system described requires the viewer to wear an apparatus in front of the eyes. Each side of the apparatus has two polarizers and a liquid crystal cell which act as a shutter allowing viewing from only one eye at a time. The liquid crystal cells are pulsed on and off at the same rate that stereoscopic images are displayed on a CRT. A three dimensional image is achieved because the right and left eyes of the viewer see slightly different images. Because the liquid crystal cells disclosed in this article are used as shutters, this article discloses only one screen capable of forming an image. Therefore, this article does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

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(4) Cole et al., "A Three-Dimensional Display for Radar Returns"

This article describes a three dimensional display system. Ten liquid crystal cells are stacked and connected to a computer to create a three dimensional model of objects detected by

radar. Images are displayed on the liquid crystal cells by modulating areas of the cell between clear and translucent. A viewer looking into the stack observes a three dimensional image because the images displayed on the individual liquid crystal cells are overlaid. This publication does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(5) Eastman Kodak Co., "Kodak Datashow HR/M Projection Pad," Motion Picture and Audiovisual Products, 1988

This publication presents a projection display system in which projection images are created by a liquid crystal screen illuminated from below by a standard overhead projector. This publication does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

(6) General Electric, "3-D Liquid Crystal Display for Mine Detecting Radar"

This publication describes a three dimensional display system. Liquid crystal cells are stacked and connected to a computer to create a three dimensional model of objects imaged by mine detecting radar. Images are displayed on the liquid crystal cells by modulating areas of the cell between clear and one of four translucent states. A viewer looking into the stack observes a three dimensional image because the images displayed on the individual liquid crystal cells are overlaid. This publication does not disclose or suggest, among other things, a multi-layered

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image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(7) Hattori, T. et al. "Spatial Modulation Display Using Spatial Light Modulators", Optical Engineering, Vol. 31, No. 2, pp. 350-352, (February 1992)

This article describes a three dimensional display system. Laser light is projected through a spatial filter, large convex lenses, and images on a series of spatial light modulators. The system creates a three dimensional phantom image in real space. This publication does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(8) Hodges et al., "True Three-Dimensional CRT-Based Displays," Infor. Display, pp. 18-22 (May 1987)

This article presents an overview of three dimensional display technology. The authors discuss two multiplanar systems in which three dimensional images are created by use of multiple two dimensional images. One system consists of two dimensional images being physically positioned in the three dimensional display space while a mechanical shutter is

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synchronized to permit viewing the two dimensional images when they are correctly positioned. The other system uses a variable focus mirror pulsed to change the focal point rapidly so that the viewer perceives the images as three dimensional. This publication does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

(9) Tamura et al., "Multilayer 3-D Display Adapter"

This article describes an adaptor for use on a cathode ray tube ("CRT") display that creates a three dimensional image. Four separate light paths from a single cathode ray tube, each differing in length, are created by use of mirrors and partial mirrors. All four images from the different light paths are recombined by use of mirrors. The difference in length of the light paths causes the superposition of all the images to appear as a three dimensional image. Because only a single CRT is used, this article does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

U.S. Patents

(1) U.S. Patent No. 2,543,793 to Marks

This patent relates to a three dimensional camera and display system. The display portion of the invention consists of a stack of liquid crystal cells illuminated by a cathode ray tube ("CRT"). a single CRT projects a series of images corresponding to different depth planes of a scene captured by the camera. The cells corresponding to different depth planes are activated in sequence with the projected images to reflect the projected image. The displayed image is switched so rapidly, that the viewer perceives all the images simultaneously as a three dimensional image. This publication does not disclose or suggest, among other things, a multi-

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layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(2) U.S. Patent No. 2,961,486 to Marks

This patent relates to a three dimensional camera and display system. The display portion of the invention consists of a stack of liquid crystal cells illuminated by a cathode ray tube ("CRT"). The CRT projects a series of images corresponding to different depth planes of a scene captured by the camera. The cells corresponding to different depth planes are activated in sequence with the projected images to reflect the projected image. The displayed image is switched so rapidly, that the viewer perceives all the images simultaneously as a three dimensional image. This patent does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

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(3) U.S. Patent No. 3,536,921 to Caulfield

This patent relates to a three dimensional recording and display device. Four layers, each composed of an electro-optical switch and a birefringent element, are placed between a cathode

ray tube display and a viewer. When each layer is activated in sequence, the viewer perceives a change in the focal point of the image displayed on the cathode ray tube. The result is a three dimensional effect. Because this patent uses only a single cathode ray tube to display images, it does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

(4) U.S. Patent No. 3,605,594 to Gerritsen

This patent relates to a three dimensional optical photography projection system. Images from a projector are incident upon stack of three liquid crystal cells. Each image corresponds to one of three depth planes from the photographed scene. Each liquid crystal cell can be switched from transparent to strongly scattering. The projector and activation of the liquid crystal cells are synchronized so that images from the foreground are displayed on the screen closest to the viewer while the background images are projected onto the background screen. The images and the cells are cycled so rapidly that a viewer perceives images from all three depth planes simultaneously. This patent does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

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(5) U.S. Patent No. 3,891,305 to Fader

This patent relates to two types of displays for simulating a three dimensional image. It discusses an apparatus for displaying photographic transparencies and a system that uses a cathode ray tube ("CRT") in conjunction with one or more liquid crystal displays ("LCD"). In the first apparatus, light is projected through a series of photographic transparencies containing static images. A three dimensional effect is created because the distance between the transparencies results in a parallax effect. A white Plexiglas sheet may be placed between the light source and the rear-most transparency. This sheet diffuses the projected light in order to evenly illuminate the transparencies. In the second apparatus, LCD's are placed between a CRT and the viewer. The same image is displayed simultaneously on both the CRT and the LCD's. Each LCD has small transparent areas positioned throughout the screen to permit the viewer to simultaneously see the image displayed on the CRT and the LCD. The viewer perceives a three dimensional image because of parallax effect caused by the distance between the display surfaces. This patent does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer between the first screen and the second screen, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

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(6) U.S. Patent No. 3,918,796 to Fergason

This patent relates to a single liquid crystal display. Two plates of glass, each with transparent electro conductive coating, are rubbed in one direction. The plates are arranged so that the directions of their rubbing are perpendicular, and separated by a small distance. Nematic

liquid crystal fills the space between the plates. The whole unit is sandwiched between polarizers. If the polarizers are oriented perpendicular to one another, the display passes light when no voltage is applied. If the polarizers are oriented parallel to each other, the display is opaque when no voltage is applied. This patent does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

(7) U.S. Patent No. 3,955,208 to Wick et al.

The invention patented by Wick et al. relates to a photographic camera with a diaphragm formed from layers of circular shaped liquid crystal cells. The layers of liquid crystal cells replace the mechanical aperture of a traditional camera. Each liquid crystal cell has at least one pair of annular electrodes. When a voltage is applied, the liquid crystal in the area of the electrodes becomes opaque, while the center area remains transparent. The size of the annular electrodes are different on each layer of liquid crystal cell. By activating several layers of liquid crystal at the same time, the aperture size of the camera can be easily varied. This patent does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

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(8) U.S. Patent No. 3,992,082 to Katz

This patent relates to a liquid crystal display with two layers. Two liquid crystal cells are separated by a very thin glass layer. The thinness of the glass layer eliminates the parallax effect

experienced by an observer by decreasing the separation between the two images displayed. The whole display can be configured for use in a light transmitting mode or light reflective mode. This patent does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(9) U.S. Patent No. 4,165,922 to Morrissy

This patent relates to a single liquid crystal display that does not rely upon polarization to create a display. Areas of a layer of nematic liquid crystal can be switched between homeotropic alignment and homogeneous random alignment by selectively applying a voltage between two plate electrodes separated by the liquid crystal. The display is created by differences in appearance between the two alignment states. This patent does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

(10) U.S. Patent No. 4,190,856 to Ricks

This patent relates to a method and apparatus for producing a three-dimensional picture suitable for use with television systems. Several cathode ray tubes ("CRT") display images corresponding to different depth planes of a recorded television signal. These images are superimposed along a common optical axis by a series of beam splitters. An observer perceives a three dimensional image because of the differences in the light path lengths between the

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various CRT's and the observer. The patent also discusses a method for minimizing the translucency of the foreground portions of the three dimensional image. The translucency problem results from the fact that the background image can be observed through the foreground image. To solve this problem, a liquid crystal display or similar device can be placed in front of the background CRT. Portions of the LCD corresponding to the location of a foreground image, are then darkened to block light from the background image. As a result, the foreground image is not translucent to the observer. Because the device uses beam splitters to stack the images from CRT's which are perpendicular to each other, it does not disclose or suggest, among other things, a first screen that is in front of a second screen.

(11) U.S. Patent No. 4,281,341 to Byatt

The invention patented by Byatt relates to a stereoscopic television system that relies upon presenting each eye with a different image to create the perception of three dimensional images. A television is supplied with a special signal in which the frames alternate between images intended for the right eye and images intended for the left eye. A polarizer and a liquid crystal cell are placed between the viewer and a television. The liquid crystal cell is switched rapidly on and off resulting in a stream of frames that alternates between images intended for the right eye with vertical polarization and images intended for the left eye with horizontal polarization. The viewer wears special glasses with one vertically oriented polarizer and one horizontally oriented polarizer. The viewer perceives a three-dimensional television image because each eye is receiving a slightly different images. Because the television is the only image forming screen, this patent does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

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(12) U.S. Patent No. 4,294,516 to Brooks

This patent relates to an apparatus that creates a three dimensional effect that pictures are moving toward or away from the viewer. A series of stationary images are displayed sequentially on a stack of liquid crystal cells sandwiched between two polarizers . By activating the display elements sequentially the image is made to approach or recede from the viewer. This patent does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(13) U.S. Patent No. 4,333,715 to Brooks

This patent relates to an apparatus that creates a three dimensional effect that pictures are moving toward or away from the viewer. A series of stationary images are displayed sequentially on a stack of liquid crystal cells sandwiched between two polarizers . By activating the display elements sequentially the image appears to approach or recede from the viewer. This patent does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

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(14) U.S. Patent No. 4,472,737 to Iwasaki

The invention patented by Iwasaki relates to a stereographic display system for viewing computer tomography ("CT") scans. The display portion of the system consists of a stack of liquid crystal cells illuminated from behind by a cathode ray tube ("CRT"). The CRT projects a series of images from different depth planes of the CT scan. The liquid crystal cells corresponding to different depth planes of the CT scan are activated in sequence with the images to act as projection screens. The image displayed is switched so rapidly, that the viewer perceives all the images simultaneously as a three dimensional image. This patent does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(15) U.S. Patent No. 4,541,692 to Collins

This patent relates to a single liquid crystal display. The display can be operated without backlighting in reflective mode or can be operated in transmissive mode with the addition of backlighting. Contrast is improved by placing a light mask between the liquid crystal cell and the reflector/backlight source. The mask blocks light in all areas except those corresponding to image areas of the liquid crystal display. This patent does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

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(16) U.S. Patent No. 4,736,214 to Rogers

This patent relates to a theatrical three dimensional display system. Mirrors and partial mirrors are used to superimpose two slightly different images from a projector. Mirrors are also used to superimpose reflections of props and actors. The differences in length of the light paths result in a three dimensional image. Accordingly, this patent does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

(17) U.S. Patent No. 5,032,007 to Silverstein et al.

This patent relates to a stack of three liquid crystal cells used as a color filter and a color display device. Different colored dyes are added to each liquid crystal cell. The cells are arranged in a stack. In one embodiment, light from a monochromatic CRT is appropriately colored by each liquid crystal cell as the light passes through the stack. The result is a full color image. In another embodiment, each layer of the stack displays an image in a separate color. A viewer seeing the combination of individually colored images perceives a full color image. This patent does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

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(18) U.S. Patent No. 5,086,354 to Bass et al.

This patent relates to a three dimensional optical viewing system. A liquid crystal display is placed between a primary video display and an observer. When not activated, the liquid crystal display is substantially transparent allowing a viewer to see the primary video display through the liquid crystal display. When supplied with an image signal, areas of the liquid crystal display corresponding to the image darken to create a foreground image. The viewer perceives a three dimensional image because the image on the liquid crystal display overlays the image displayed on the primary display. This patent does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(19) U.S. Patent No. 5,107,352 to Fergason

The patent to Fergason relates to a color display comprised of several layers of individually colored liquid crystal displays. Each liquid crystal cell displays an image in a particular color. An observer perceives the individual images as a combined full color image. This patent does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display

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with at least one object between the first screen and the second screen capable of blocking polarized light.

(20) U.S. Patent No. 5,132,839 to Travis

The invention patented by Travis relates to a three dimensional display device. A lens and a backlighting source are placed behind a liquid crystal display. A control system displays a plurality of images in succession. Each image in the sequence is a view of the subject from a different angle. The backlighting source selectively emits light from a different position for each image. As a result, a viewer only sees a particular image if the viewer is at a particular angle to the display. The difference in angle caused by the distance between the viewer's eyes makes each eye receive a different image. The system cycles through many images rapidly resulting in a three dimensional image. Because this device uses only a single liquid crystal display to create a three dimensional image, this patent does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

(21) U.S. Patent No. 5,557,684 to Wang et al.

The Wang et al. patent relates to an image processing system for resolving a video frame into a series of layers by analyzing the pixel change between frames and the intensity of pixels within the frames. The layers of the image can then be manipulated to remove certain images or add intervening frames by interpolation. The patent does not disclose or suggest the use of such an image processing system with a multi-layered image display.

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(22) U.S. Patent No. 5,589,980 to Bass et al.

This patent relates to a three dimensional optical viewing system. Layers of liquid crystal displays are placed between a primary video display and an observer. The liquid crystal displays are substantially transparent allowing a viewer to see the primary video display through the liquid crystal displays. The viewer perceives a three dimensional image because images displayed on the liquid crystal displays overlay images displayed on the primary display. This patent does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(23) U.S. Patent No. 5,956,180 to Bass et al.

This patent relates to a three dimensional optical viewing system. Layers of liquid crystal displays are placed between a primary video display and an observer. The liquid crystal displays are substantially transparent allowing a viewer to see the primary video display through the liquid crystal displays. The viewer perceives a three dimensional image because images displayed on the liquid crystal displays overlay images displayed on the primary display. The use of lenses and prisms to refract light from one or more displays is disclosed. This patent does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one

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face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

Foreign Patent Documents

(1) Japanese Publication No. 02-262119

This reference relates to a three dimensional display system in which points in virtual space are assigned a corresponding coordinate in a laminated liquid crystal display. When the points are displayed by the laminated liquid crystal display, the three dimensional image from virtual space is reproduced. This reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(2) Japanese Publication No. 03-101581

This reference relates to a stereoscopic picture display device. A two dimensional image is resolved into foreground and background and displayed on overlapping screens. This reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display

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with at least one object between the first screen and the second screen capable of blocking polarized light.

(3) Japanese Publication No. 04-034521

This reference relates to a stereoscopic liquid crystal display consisting of a stack of liquid crystal cells with a polarizer on the uppermost cell. This reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(4) Japanese Publication No. 04-034595

This reference relates to a display device. A foreground and a background image are displayed simultaneously on a single cathode ray tube. The device shifts the images relative to each other depending on the location of the viewer. By shifting the images relative to each other, the viewer experiences an illusion of depth. Because this reference uses a single display device, it does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

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(5) Japanese Publication No. 05-007373

This reference relates to a stereoscopic electronic still camera. The camera produces a stereo pair image by shifting the perspective of the images based on the focusing position of the

auto-focus system of the camera. Use of the stereoscopic electronic still camera with a multi-layered image display is not disclosed or suggested.

(6) Japanese Publication No. 05-091545

This reference relates to a stereoscopic image recording system. A three dimensional image is recorded by extracting depth information from a two dimensional image and recording it in a series of separate channels corresponding to the appropriate picture depth. Use of the recording system with a multi-layered image display is not disclosed or suggested.

(7) Japanese Publication No. 05-142515

This reference relates to a single liquid crystal display device with increased reliability and improved light scattering characteristics. The reference does not disclose or suggest a multi-layered image display.

(8) Japanese Publication No. 06-233328

This reference relates to a three dimensional display panel consisting of a stack of liquid crystal cells. This reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

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(9) Japanese Publication No. 07-209573

This reference relates to a three dimensional vision camera. A laser rangefinder is used to obtain depth information for each frame the camera records. This reference does not relate to a multi-layered image display.

(10) Japanese Publication No. 07-222202

This reference relates to a stereoscopic image camera. A two dimensional image from a video camera is compared with previous frames. Based on differences between the frames, a stereoscopic image is produced. The reference does not disclose or suggest using the stereoscopic camera with a multi-layered image display.

(11) Japanese Publication No. 08-076139

This reference relates to a multi-layer liquid crystal display with improved brightness. Brightness is improved by each liquid crystal cell sharing a polarizer with the adjacent cell. This reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

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(12) Japanese Publication No. 56-7916

This reference relates to a liquid crystal display device. A stack of liquid crystal cells is sandwiched between two polarizers. The liquid crystal molecules at the surface of each cell are

aligned with the molecules at the surface of the adjacent cell to make them optically consecutive and reduce the refractive index between the cells. This reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(13) Japanese Publication No. 57-119389

This reference relates to a liquid crystal display device with a plurality of liquid crystal cells placed between a pair of polarizers. The reference recites that it is an improvement over similar prior art displays because it minimizes the reduction in contrast caused by multiplexing. Maximizing the contrast is accomplished by the liquid crystal cells sharing the transparent substrate between them and making the liquid crystal molecule directors of all the cells parallel. This reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

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(14) Japanese Publication No. 60-103895

This reference relates to a stereoscopic television device. Three CRT's are arranged beside each other. Each of the CRT's displays a foreground image on one side and a background image on the other side. A system of lenses is used to focus the foreground and background images at different points in front of the viewer. The different focal planes cause a three dimensional effect for the a viewer. Because the CRT's are arranged beside each other, the reference does not disclose or suggest, among other things, a multi-layered image display wherein the first screen is in front of the second screen.

(15) Japanese Publication No. 60-233684

This reference relates to a laminated liquid crystal display device. The device consists of alternating layers of glass and liquid crystal sandwiched between two polarizers. This reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(16) Japanese Publication No. 60-244924

This reference relates to a multi-layered liquid crystal panel with decreased thickness and increased resiliency. This reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display

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devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(17) Japanese Publication No. 61-166524

This reference relates to a three dimensional liquid crystal display device. In addition to the depth provided by displaying images on the plurality of LCD's, additional depth is created by decreasing the contrast of deeper layers. This reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(18) Japanese Publication No. 62-122494

This reference relates to a stereoscopic vision device in which a photographed picture is resolved into different depths and displayed. The photographed picture is displayed by using a series of half mirrors to combine images from a series of liquid crystal cells arranged perpendicular to the viewer's line of sight. A three dimensional effect is created by moving or vibrating the liquid crystal cells perpendicular to the viewers line of sight. This reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one

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face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(19) Japanese Publication No. 62-161294

This reference relates to a stereoscopic television adapter. The adapter creates the perception of three dimensional images by presenting each eye with a different image. A television is supplied with a special signal in which the frames alternate between images intended for the right eye and images intended for the left eye. Two polarizers and a liquid crystal cell are placed between the viewer and the television. The liquid crystal cell is switched rapidly on and off resulting in a stream of image frames that alternate between images intended for the right eye with vertical polarization and images intended for the left eye with horizontal polarization. The viewer wears special glasses in which each lens is a polarizer oriented perpendicular to the lens for the other eye. The viewer perceives a three-dimensional television image because each eye is receiving a slightly different images. Because the television is the only image producing screen, this reference does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

(20) Japanese Publication No. 62-191819

This reference relates to a stereoscopic image display device. A polarizer is placed on the front of a cathode ray tube ("CRT") displaying a stream of images that alternates between those intended for the left eye and those intended for the right eye. The viewer wears an apparatus in front of the eyes. Each side of the apparatus has a polarizer and a liquid crystal cell allowing viewing from only one eye at a time. The liquid crystal cells are pulsed on and off at the same rate that stereoscopic images are displayed on the CRT. A three dimensional image is achieved

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because the right and left eyes of the viewer see slightly different images. Because the CRT is the only image producing screen, this reference does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

(21) Japanese Publication No. 62-191820

This reference relates to a stereoscopic display system that creates the perception of three dimensional images by presenting each eye with a different image. A television is supplied with a special signal in which the frames alternate between images intended for the right eye and images intended for the left eye. A polarizer and a liquid crystal cell are placed between the viewer and a television. The liquid crystal cell is switched rapidly on and off resulting in a stream of frames that alternates between images intended for the right eye with right circular polarization and images intended for the left eye with left circular polarization. The viewer wears special glasses with opposite polarizers. The viewer perceives a three-dimensional television image because each eye is receiving a slightly different images. Because the television is the only image producing screen, this reference does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

(22) Japanese Publication No. 62-235929

This reference relates to a three dimensional display in which several liquid crystal displays are stacked like laminated layers. The reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive

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polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(23) Japanese Publication No. 63-039299

This reference relates to a three dimensional display. An image is projected into a stack of liquid crystal cells. By selectively applying a slight current to specific pixels within the stack, they are switched from transparent to scattering mode. The projected light incident upon an activated pixel makes it visible to an observer looking into the stack. Because specific pixels are activated simultaneously throughout the stack, a three dimensional image is produced. The reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(24) Japanese Publication No. 63-067094

This reference relates to a stereoscopic display system that creates the perception of three dimensional images by presenting each eye with a different image. A monitor displays a series of images that alternate between images intended for the right eye and images intended for the left eye. A polarizer and a liquid crystal cell are placed between the viewer and a television. The liquid crystal cell is switched rapidly on and off resulting in a stream of frames that alternates between images intended for the right eye with vertical polarization and images intended for the

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left eye with horizontal polarization. The viewer wears special glasses in which each lens is a polarizer oriented perpendicular to the lens for the other eye. The viewer perceives a three-dimensional television image because each eye is receiving a slightly different images. Because the television is the only image producing screen, this reference does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

(25) Japanese Publication No. 63-100898

This reference relates to stereoscopic television set comprising a stack of liquid crystal displays. Images corresponding to different depths are displayed one at a time in rapid succession on the appropriate liquid crystal screen. The images appear superimposed as a three dimensional image because of the after-image effect of the human eye. The reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(26) Japanese Publication No. 63-203088

This reference relates to stereoscopic display device. A polarizer and liquid crystal cell are placed between a cathode ray tube ("CRT") display and the viewer. The CRT displays images alternating between those intended for the left eye and those intended for the right. The liquid crystal cell, acting as a selective polarizer, is switched rapidly on and off. This results in a series of images alternating between those intended for the right eye have vertical polarization

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while those intended for the left eye have horizontal polarization The viewer wears special glasses with a vertically oriented polarizer for the right eye and a horizontally oriented polarizer for the left eye. A three-dimensional image is perceived because each eye is receiving only those images intended for that eye. Because the CRT is the only image producing screen, this reference does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

(27) U.K. Patent 1,448,520 to Mash

This patent relates to stereoscopic display device. A polarizer and liquid crystal cell are placed between a cathode ray tube ("CRT") display and the viewer. The CRT displays images alternating between those intended for the left eye and those intended for the right. The liquid crystal cell, acting as a selective polarizer, is switched rapidly on and off. The result is a stream of images in which images intended for the right eye have vertical polarization while those intended for the left eye have horizontal polarization The viewer wears special glasses with a vertically oriented polarizer for the right eye and a horizontally oriented polarizer for the left eye. A three-dimensional image is perceived because each eye is receiving only those images intended for that eye. Because the television is the only image producing screen, this reference does not disclose or suggest, among other things, a multi-layered image display comprised of a first screen capable of displaying a first image and a second screen capable of displaying a second image.

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(28) European Publication No. 0 195 584 A2

This reference relates to a three dimensional display system. Liquid crystal cells with circular polarization characteristics are arranged in a stack. The liquid crystal displays are used

to selectively reflect a series of two dimensional images projected from a cathode ray tube. The images are switched so rapidly that they appear superimposed, resulting in a three dimensional effect to the viewer. The reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(29) European Publication No. 0 336 351 A2

This reference relates to an apparatus using a stack of three liquid crystal cells as a color filter and as a color direct display device. Different color dyes are added to each liquid crystal cell. The cells are arranged in a stack. In one embodiment, light from a monochromatic CRT is appropriately colored by each liquid crystal cell as the light passes through the stack. The result is a full color image. In another embodiment, each layer of the stack displays an image in a separate color. A viewer seeing the combination of individually colored images perceives a full color image. The reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

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(30) European Publication No. 0 454 423 A1

This reference relates to a three dimensional display system. A stack of transparent display layers separated by a physical distance create three dimensional images by displaying two dimensional images on each display layer. The reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(31) WIPO Publication No. WO 91/12554

This reference relates to a three dimensional display. Three dimensional images are created by displaying two dimensional images on a plurality of stacked layers liquid crystal cells. The reference states that lenticular screens or other lenses may be used in conjunction with the display to enhance the visual experience. Use of displays requiring polarizers are discussed, but are not preferred. The reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

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(32) WIPO Publication No. 91/15930

This reference relates to a three dimensional display in which a projector is incident upon a plurality of liquid crystal screens arranged in a stack. The projector rapidly displays a series of two dimensional images corresponding to a particular depth plane of the three dimensional image. The screens are switched to a strongly scattering state when the image corresponding to its depth plane is projected. A three dimensional effect is achieved because the after-image effect of the human eye causes all of the two dimensional images projected on the various screens to appear superimposed. The reference does not disclose or suggest, among other things, a multi-layered image display with a slightly diffuse layer, a multi-layered image display wherein a second pixel alignment is 45 degrees with the respect to a first pixel alignment, a multi-layered image display wherein a first screen and a second screen are transmissive polarized display devices and there is no polarizer on at least one face of at least the first screen or the second screen, or a multi-layered display with at least one object between the first screen and the second screen capable of blocking polarized light.

(33) WIPO Publication No. WO 92/09003

This document discloses a liquid crystal shuttering device that requires no polarizing element. This reference does not disclose or suggest a multi-layered image display.

(34) WIPO Publication No. WO 98/04087

This reference relates to a video processing system that extracts depth information from an input signal and outputs separate foreground and background signals. This reference does not disclose or suggest the use of such an image processing system with a multi-layered image display.

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(35) WIPO Publication No. WO 98/16869

This reference relates to a single liquid crystal display. The display is transparent in the absence of an applied voltage. When voltage is applied, the display is opaque. This reference does not disclose or suggest, among other things, a multi-layered image display.

CONCLUSION

As set forth in detail above, none of the references cited above discloses or suggests the subject matter recited in the claims of the pending application.

Applicants respectfully submits that in view of the foregoing, the requirements of M.P.E.P. § 708.02 (VIII) have been met. The pending claims are all allowable over the references considered individually or in any reasonable combination. Accordingly, Applicants requests that this Petition to Make Special be granted and that the claims of this application be allowed.

Respectfully submitted,

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Dated: March 1, 2002

By: _____
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